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(54) Title: **IMPROVED CFM MODE SYSTEM**

(57) **Abstract:** A method for producing at least one ciphertext block from at least one plaintext block using a block cipher E and a key K , the method including receiving n plaintext blocks, wherein n is an integer greater than 0, setting Q_0 equal to an initial value, and for each plaintext block of the n plaintext blocks: computing $Q_i = E_K(Q_{i-1}) \text{ XOR } P_i$; and computing $C_i = M(P_i, Q_i)$, thereby producing n ciphertext blocks, wherein $0 < i \leq n$, and P_i denotes an i -th plaintext block of the n plaintext blocks, and C_i denotes an i -th ciphertext block of the n ciphertext blocks, and M is a selector function which, for each bit C_{ij} of block C_i , selects a first argument of M if bit P_{ij} is not to be encrypted, and selects a second argument of M if bit P_{ij} is to be encrypted. Related apparatus and methods are also provided.

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